REMARKS

Claims 1-57 are currently pending in this application.

1. Status of the Claims

Claims 1-57 are pending in this application. Claims 1, 15, 30 and 44 were amended to clarify the invention. Claim 14 was amended to correct a typographical error. Support for the amendments can be found in the specification as originally filed, for example, in:

Claim 1	paragraphs 0018 and 0020 and Figures 1 and 2;
Claim 15	paragraphs 0018 and 0020 and Figures 1 and 2;
Claim 30	paragraph 0019 and Figures 1 and 2; and
Claim 44	paragraph 0020

2. 35 U.S.C. §102(b) Rejections

Claims 15, 17, 24, 25, 27-31, 38, 39 and 41-43 are rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,358,872 to Mussi et al. (Mussi). Claims 15, 17, 18-22, 30-36 are rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,522,155 to Jones (Jones). Claim 44 is rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,988,448 to Foth (Foth).

a. Mussi Does Not Teach Or Suggest A Cap With A Hole That Is Completely Sealed Or A Hole In The Shoulder Of The Bottle

The Examiner rejected Claims 15, 17, 24, 25, 27-31, 38, 39 and 41-43 as being anticipated by Mussi. Applicant respectfully traverses this objection.

Mussi discloses a cap with a hole in the top, a PTFE membrane secured to the hole with the hole covered by several peel-away thin film labels 26 with varying-size holes and the top film 32 containing no hole, such that it provides an air tight seal. The films cover the top of the cap and have a tab for easy removal. Mussi, col. 5, lines 54-68. The peel-away films of Mussi are selectively removable to permit equilibration between the atmosphere of the vessel and the atmosphere of an incubator. Claim 15

was amended to further define the air tight seal that is applied to the cap. The hole of the present invention is filled with an air-tight sealing material that forms an air impermeable seal over the air permeable membrane, filling and sealing the hole. See Specification, paragraph 0018 and Figure 2. This differs from the film that is applied to the cap in Mussi that can be easily removed to expose a film layer containing a small permeable orifice to allow for equilibration between gases in the container and in an incubator. Mussi, col. 5, lines 54-68. Mussi does not each or suggest filling a hole with sealing material to form an air-tight seal.

Claim 30 was amended to further explain that the hole in the head space area of the container is not the same hole as the opening that is used to fill the container, i.e. the mouth of the container. Rather, the hole covered by the air permeable membrane and the air tight seal is within the shoulder of the bottle itself, rather than the neck. Mussi does not teach or suggest such a hole, as Mussi discloses an air tight seal secured over a hole in the cap rather than a hole in the shoulder of the bottle itself.

Therefore Claims 15 and 30 are patentable, and consequently, Claims 17, 24, 25 and 27-29 which depend upon Claim 15, and Claims 31, 38, 39 and 41-43 which depend upon Claim 30 are also patentable.

b. Jones Does Not Teach Or Suggest A Cap With A Hole That Is Completely Sealed Or A Hole In The Shoulder Of The Bottle

The Examiner rejected Claims 15, 17, 18-22, and 30-36 as being anticipated by Jones. Applicant respectfully traverses this objection.

Jones discloses a cap with a hole in the top, a PTFE membrane secured to the hole with the hole covered by a plug that provides an air tight seal. Claim 15 was amended to further define the air tight seal that is applied to the cap. The hole of the present invention is filled with an air-tight sealing material that forms an air impermeable seal over the air permeable membrane, and is essentially flush with the top portion of the cap. This differs significantly from the plug in Jones that can be selectively either engaged or not engaged in order to allow for venting of the contents of the container.

Claim 30 was amended to further recite that the hole in the head space area of the container is not the same hole as the opening that is used to fill the container, i.e. the mouth of the container. Rather, the hole covered by the air permeable membrane and furthermore the air tight seal is within the shoulder of the bottle itself, rather than the neck. Jones does not teach or suggest such a hole, as the only hole in Jones is the mouth of the container itself.

Therefore Claims 15 and 30 are patentable, and consequently, Claims 17 and 18-22 which depend upon Claim 15, and Claim 31-36 which depend upon Claim and 30 are also patentable.

c. Foth Does Not Teach Or Suggest A Cap With A Hole That Is Completely Sealed Or A Hole In The Shoulder Of The Bottle

The Examiner rejected Claim 44 as being anticipated by Foth. Applicant respectfully traverses this objection.

Foth discloses a cap for releasing the vacuum of a drink container wherein the cap has a hole on the side flange covered by an air permeable membrane and sealed by a cap. The hole on the cap of Foth is not on the skirt portion of the cap, but rather is located at a stem on the top portion of the cap. Additionally, the seal that covers the hole located at the stem does not permanently seal the cap, but rather is capable of being moved up and down in order to seal and release the seal. This differs from the seal of the current invention which is located on the skirt portion of the cap and is a seal that fills the hole to provide an air-tight seal over an air permeable membrane. Therefore, Claim 44 is patentable.

3. 35 U.S.C. §103 Rejections

Claims 1 and 3 are rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 4,174,784 to Hartung (Hartung). Claims 2, 4-7 are rejected under 35 U.S.C. §103(a) as being unpatentable over Hartung further in view of Jones. Claims 8-

14 are rejected under 35 U.S.C. §103(a) as being unpatentable over Hartung further in view of Mussi. Claim 16 is rejected under 35 U.S.C. §103 as being unpatentable over Mussi further in view of U.S. Patent No. 5,901,867 to Mattson (Mattson). Claims 23, 26, 37 and 40 are rejected under 35 U.S.C. §103 as being unpatentable over Mussi. Claims 45-50 are rejected under 35 U.S.C. §103 as being unpatentable over Foth further in view of Jones. Claim 51 is rejected under 35 U.S.C. §103 as being unpatentable over Foth further in view of Mussi. Claims 44, 45, 52-57 are rejected under 35 U.S.C. §103 as being unpatentable over Mussi further in view of U.S. Patent No. 5,358,872 to Bartur et al. (Bartur).

a. Hartung Does Not Teach Or Suggest A Cap With A Hole That Is Completely Sealed

The Examiner rejected Claims 1 and 3 as being unpatentable over Hartung. Applicant respectfully traverses this objection.

Hartung teaches hot filling and capping a bottle providing a closure with a membrane covering the spout neck orifice of the bottle. Hartung, col. 2, line 42. Hartung further discloses sealing the membrane within the spout orifice with a cap. Hartung, col. 2, line 43-45. A cap placed over the neck orifice of the bottle secures the membrane in place within the orifice. Hartung, col. 2, lines 39-45. The Examiner contends that since cooking oil and fruit juices are not stable with prolonged exposure to air, there must be an air tight seal after the pressure has equalized. However, there is no separate air tight seal; rather the cap itself provides the seal.

The present invention as in Claims 1 and 3 includes a hole covered by a hydrophobic air permeable membrane that is in the cap itself, not in the container. The container is filled with hot contents, the cap is placed on the container, and the container is allowed to cool. Once the container is cooled and the pressure has equilibrated, an air tight seal is applied to fill the hole over the initial air permeable membrane. This air tight seal allows liquids that are not stable with prolonged exposure to air to be stored within the bottle. Hartung does not teach or suggest the claimed method.

Therefore, Claims 1 and 3 are patentable over Hartung.

b. Jones Does Not Fill The Deficiency Of Hartung

The Examiner rejected Claims 2 and 4-7 as being unpatentable over Hartung further in view of Jones. Applicants respectfully traverse this assertion.

The Examiner contends that it would have been obvious to utilize PTFE membranes with 0.1-3 micron size pores as the hydrophobic/air permeable membrane covering the orifice in Hartung. However, neither Hartung nor Jones teach or suggest using a sealing material to fill the hole covered with the air permeable membrane after temperature and pressure equilibration of the container has occurred and to create an air impermeable seal in the hole over the air permeable membrane. Jones does not address these deficiencies of Hartung, and therefore, claims 2 and 4-7 are patentable over Hartung further in view of Jones.

c. Mussi Does Not Fill The Deficiency Of Hartung

The Examiner rejected Claims 8-14 as being unpatentable over Hartung further in view of Mussi. Applicants respectfully traverse this assertion.

The Examiner contends that it would have been obvious to select any particular size hole for Hartung based on the different thin-film layers that are disclosed in Mussi. The Examiner further contends that it would have been obvious to use a pressure adhesive, a semi-transparent adhesive, an actinic and UV radiation curable and a dryable coating for the air tight seal. However, neither Hartung nor Mussi teach or suggest using sealing material to fill the hole covered with the air permeable membrane after temperature and pressure equilibration of the container has occurred and to create an air impermeable seal in the hole over the air permeable membrane. Mussi places an air impermeable membrane over an air permeable membrane. Mussi does not fill a hole with an air impermeable material. Mussi does not address these deficiencies of Hartung, and therefore, claims 8-14 are patentable over Hartung further in view of Mussi.

d. Mattson Does Not Fill The Deficiency Of Mussi

The Examiner rejected Claim 16 as being unpatentable over Mussi further in view of Mattson. Applicants respectfully traverse this objection.

The Examiner contends that it would have been obvious to modify the seal of Mussi to provide a liner or support backing to offer mechanical support and ease of handling the PTFE membrane. However, neither Mussi nor Mattson teach or suggest using a sealing material to fill the hole covered with the air permeable membrane after temperature and pressure equilibration of the container has occurred and to create an air impermeable seal in the hole over the air permeable membrane. Mattson does not address these deficiencies of Mussi, and therefore, claims 8-14 are patentable over Mussi further in view of Mattson.

e. Mussi Does Not Teach Or Suggest A Cap With A Hole That Is Filled With A Sealing Material

The Examiner rejected Claims 23, 26, 37 and 40 as being unpatentable over Mussi. Applicants respectfully traverse this objection.

The Examiner contends that it would have been obvious to select any particular size hole for pressure equilibration depending on the permeability of the membrane selected and the desired gas exchange rate. The Examiner further contends that it would have been obvious to include paint on the seal of Mussi to serve as a means for labeling the contents since this would allow one to identify the contents of each container by looking at the cap. However, Mussi does not teach or suggest filling a hole on a cap or on a bottle that was covered by a hydrophobic air permeable membrane to create an air tight seal. Rather, Mussi discloses a cap with a hole in the top, a PTFE membrane secured to the hole with the hole covered by several seals with staggering-size holes and the top seal containing no such hole, such that it provides an air tight seal. Therefore, Claims 23, 26, 37 and 40 are patentable over Mussi.

f. Neither Foth Nor Jones, Alone Or In Combination, Teach Or Suggest A Cap With A Hole In The Skirt Portion

The Examiner rejected Claims 45-50 as being unpatentable over Foth further in view of Jones. Applicants respectfully traverse this rejection.

The Examiner contends that it would have been obvious to use PTFE membranes or non-woven polyolefins with 0.1-3 micron size pores in the cap of Foth. However, neither Foth nor Jones teach or suggest a cap with a hole covered by a hydrophobic air-permeable membrane and filled with sealing material on the skirt portion of the cap to provide an air tight seal. Rather, Foth discloses a cap for releasing the vacuum of a drink container wherein the cap has a hole on the side flange located at a stem on the top portion of the cap, not on the skirt portion of the cap. Therefore, Claims 45-50 are patentable over Foth further in view of Jones.

g. Mussi Does Not Fill The Deficiency Of Foth

The Examiner rejected Claim 51 as being unpatentable over Foth further in view of Mussi. Applicants respectfully traverse this objection.

The Examiner contends that it would be obvious to have a hole of any size to equilibrate the container in Foth as is used in Mussi, depending upon the particular permeability of the membrane. However, neither Foth nor Mussi teach or suggest a cap with a hole covered by a hydrophobic air-permeable membrane and filled with a sealing material on the skirt portion of the cap. Also, as previously explained, the peel-away thin-film labels of Mussi do not fill a hole to provide a seal, but rather are selectively removable to permit equilibration between the atmosphere of the vessel and the atmosphere of an incubator. Therefore, Claims 45-50 are patentable over Foth further in view of Mussi. Therefore, Claim 51 is patentable over Foth further in view of Mussi.

h. Bartur Does Not Fill The Deficiency Of Mussi

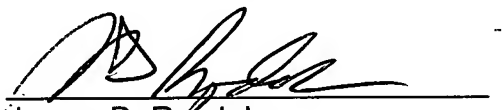
The Examiner rejected Claims 44, 45, 52-57 as being unpatentable over Mussi further in view of Bartur. Applicants respectfully traverse this objection.

The Examiner contends that it would have been obvious to use the membranes of Mussi on the side of a skirt portion of the cap as in Bartur. Mussi is deficient as explained above. Moreover, Bartur does not teach or suggest a membrane on the skirt portion of the cap. Rather, "the gas separation membrane is in tubular form and placed inside the plug" which fits inside the bottle rather than on the skirt portion of the cap which is outside the bottle itself. Bartur, Figure 3C, col. 5, lines 35-42. Neither Mussi nor Bartur disclose a hole covered with a hydrophobic air permeable membrane located on the skirt portion of a cap. Therefore, Claims 44, 45 and 52-37 are patentable over Mussi and further in view of Bartur where the hole is filled with sealing material to form an air impermeable seal.

CONCLUSION

Claims 1-57 are in condition for allowance and an early indication of allowance is solicited.

Respectfully submitted,



James D. Ryndak
Registration No. 28,754
Attorney for Applicants

Dated: January 9, 2006

RYNDAK & SURI
200 West Madison Street, Suite 2100
Chicago, IL 60606
312 214-7770 (phone)
312-214-7715 (fax)